



**PATENT**  
Attorney Docket No. 218138  
DHHS Reference No. E-259-2000/0-US-02

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Stratakis et al.

Application No. 09/935,916

Group Art Unit: 1634

Examiner: Jeffrey N. Fredman

Filed: August 23, 2001

For: PROTEIN KINASE A AND CARNEY  
COMPLEX

**SUBMISSION OF SEQUENCE LISTING**

Mail Stop Sequence  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

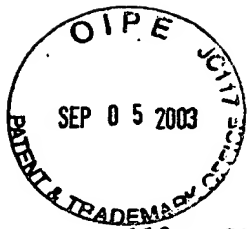
In accordance with the requirements of 37 CFR 1.821-1.825, a sequence listing is being submitted as part of the patent application. Please replace the existing sequence listing with the sequence listing submitted herewith. Sequence 41 has been corrected as supported by the specification at, for example, page 94, lines 7-9. The sequence listing is in the form of both a paper copy and a computer-readable copy on a computer diskette. The undersigned hereby verifies that the content of the paper copy and the computer readable copy, as concurrently being submitted, are the same.

Respectfully submitted,

Carol Larcher, Reg. No. 35,243  
KEYDIG, VOIT & MAYER, LTD.  
Two Prudential Plaza, Suite 4900  
180 North Stetson  
Chicago, Illinois 60601-6780  
(312) 616-5600 (telephone)  
(312) 616-5700 (facsimile)

Date: August 29, 2003

m:\Clients\NIH\Sequence\218138.SubSequence.doc



218138.sequence  
SEQUENCE LISTING

<110> Stratakis, Constantine  
Kirschner, Lawrence

<120> Protein Kinase A and Carney Complex

<130> 218138

<140> 09/935,916  
<141> 2001-08-23

<150> 60/228,211  
<151> 2000-08-25

<160> 66

<170> PatentIn version 3.0

<210> 1  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 1  
ccccactgt actgaacacc 20

<210> 2  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 2  
catggccaca cagctaacad 20

<210> 3  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 3  
agtcgcccac ctgtcatct 19

<210> 4  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 4  
cacttctcct ttccgcagtc 20

# 218138.sequence

<210> 5  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 5  
 cattgacgtc agtagccgaa 20

<210> 6  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 6  
 atcttggatc ggtccagctc 20

<210> 7  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 7  
 cctagtcccc acttccctgt 20

<210> 8  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 8  
 atcacctcat catctcccca 20

<210> 9  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 9  
 catgccgaag gatctcatTT 20

<210> 10  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

## 218138.sequence

|                           |  |    |
|---------------------------|--|----|
| <400> 10                  |  |    |
| atggatgaag ttccaccctg     |  | 20 |
| <210> 11                  |  |    |
| <211> 20                  |  |    |
| <212> DNA                 |  |    |
| <213> Artificial Sequence |  |    |
| <220>                     |  |    |
| <223> Synthetic           |  |    |
| <400> 11                  |  |    |
| caggttgcaa acgtgaaatg     |  | 20 |
| <210> 12                  |  |    |
| <211> 20                  |  |    |
| <212> DNA                 |  |    |
| <213> Artificial Sequence |  |    |
| <220>                     |  |    |
| <223> Synthetic           |  |    |
| <400> 12                  |  |    |
| ctgcgataaa ggagaccgaa     |  | 20 |
| <210> 13                  |  |    |
| <211> 20                  |  |    |
| <212> DNA                 |  |    |
| <213> Artificial Sequence |  |    |
| <220>                     |  |    |
| <223> Synthetic           |  |    |
| <400> 13                  |  |    |
| agccaaagcc attgaaaaga     |  | 20 |
| <210> 14                  |  |    |
| <211> 20                  |  |    |
| <212> DNA                 |  |    |
| <213> Artificial Sequence |  |    |
| <220>                     |  |    |
| <223> Synthetic           |  |    |
| <400> 14                  |  |    |
| gcctcctctc ccgtaacaat     |  | 20 |
| <210> 15                  |  |    |
| <211> 20                  |  |    |
| <212> DNA                 |  |    |
| <213> Artificial Sequence |  |    |
| <220>                     |  |    |
| <223> Synthetic           |  |    |
| <400> 15                  |  |    |
| ttgcttgatt ttctttcccc     |  | 20 |
| <210> 16                  |  |    |
| <211> 20                  |  |    |
| <212> DNA                 |  |    |
| <213> Artificial Sequence |  |    |

# 218138.sequence

<220>  
 <223> Synthetic  
 <400> 16  
 attcttattg ctcggaagcg 20  
 <210> 17  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic  
 <400> 17  
 tcatttaact cgtcagaaat cacc 24  
 <210> 18  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic  
 <400> 18  
 ttctaatca cactctcaaa cacca 25  
 <210> 19  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic  
 <400> 19  
 ggcataatat tggcggaaaa 20  
 <210> 20  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic  
 <400> 20  
 aaggcttttc ccaagtccat 20  
 <210> 21  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic  
 <400> 21  
 agaatgttga atgggcatgg 20  
 <210> 22  
 <211> 21

## 218138.sequence

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic  
  
 <400> 22  
 ttagccact ctttcctct t 21  
  
 <210> 23  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic  
  
 <400> 23  
 caccctgggt ttgagagtgt 20  
  
 <210> 24  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic  
  
 <400> 24  
 ttccctctca gagccaaaaa 20  
  
 <210> 25  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic  
  
 <400> 25  
 cccatctttg ctttctccag 20  
  
 <210> 26  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic  
  
 <400> 26  
 aacagacagg aagctgcat 20  
  
 <210> 27  
 <211> 189  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic  
  
 <400> 27  
 cagagaacca tggagtctgg cagtaccgcc gccagtgagg aggcacgcag ccttcgaaga 60

## 218138.sequence

tgtgagctct acgtccagaa gcataacatt caagcgctgc tcaaagattc tattgtgcag 120  
 ttgtgcactg ctcgacctga gagacccatg gcattcctca ggggaatactt tgagaggttg 180  
 gagaaggta 189

<210> 28  
 <211> 59  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 28  
 Met Glu Ser Gly Ser Thr Ala Ala Ser Glu Glu Ala Arg Ser Leu Arg  
 1 5 10 15  
 Glu Cys Glu Leu Tyr Val Gln Lys His Asn Ile Gln Ala Leu Leu Lys  
 20 25 30  
 Asp Ser Ile Val Gln Leu Cys Thr Ala Arg Pro Glu Arg Pro Met Ala  
 35 40 45  
 Phe Leu Arg Glu Tyr Phe Glu Arg Leu Glu Lys  
 50 55

<210> 29  
 <211> 189  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 29  
 cggagaacca tggagtctgg cagtaccgcc gccagtgagg aggcacgcag ccttcgaaga 60  
 tgtgagctct acgtccagaa gcataacatt caagcgctgc tcaaagattc tattgtgcag 120  
 ttgtgcactg ctcgacctga gagacccatg gcattcctca ggggaatactt tgagaggttg 180  
 gagaaggta 189

<210> 30  
 <211> 189  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 30  
 cagagaaccg tggagtctgg cagtaccgcc gccagtgagg aggcacgcag ccttcgaaga 60  
 tgtgagctct acgtccagaa gcataacatt caagcgctgc tcaaagattc tattgtgcag 120  
 ttgtgcactg ctcgacctga gagacccatg gcattcctca ggggaatactt tgagaggttg 180  
 gagaaggta 189

<210> 31

## 218138.sequence

<211> 189  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 31  
 cagagaacca tggagtctgg cagtaccgcc gccagtgagg aggcacgcag ccttcgaaga 60  
 tgtgagctct acgtccagaa gcataacatt taagcgctgc tcaaagattc tattgtgcag 120  
 ttgtgcaactg ctcgacctga gagacccatg gcattcctca ggggaatactt tgagagggtg 180  
 gagaaggta 189

<210> 32  
 <211> 184  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 32  
 cagagaacca tggagtctgg cagtaccgcc gccagtgagg aggcacgcag ccttcgaaga 60  
 tgtgagctct acgtccagaa gcataacatt caagcgctgc tcaaagattg tgcagttgtg 120  
 cactgctcga cctgagagac ccatggcatt cctcagggaa tactttgaga ggttggagaa 180  
 ggta 184

<210> 33  
 <211> 189  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 33  
 cagagaacca tggagtctgg cagtaccgcc gccagtgagg aggcacgcag ccttcgaaga 60  
 tgtgagctct acgtccagaa gcataacatt caagcgctgc tcaaagattc tattgtgcag 120  
 ttgtgcaactg cttgacctga gagacccatg gcattcctca ggggaatactt tgagagggtg 180  
 gagaaggta 189

<210> 34  
 <211> 180  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 34  
 caggaggagg caaacagat tcagaatctg cagaaagcag gcactcgtac agactcaagg 60  
 gaggatgaga tttctcctcc tccacccaac ccagtgggta aaggtaggag gcgacgaggt 120



218138.sequence  
gctatcagcg ctgaggtcta cacggaggaa gatgcggcat cctatgtag aaaggtagtt 180

<210> 35  
<211> 57  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 35  
Glu Glu Ala Lys Gln Ile Gln Asn Leu Gln Lys Ala Gly Thr Arg Thr  
1 5 10 15  
Asp Ser Arg Glu Asp Glu Ile Ser Pro Pro Pro Pro Asn Pro Val Val  
20 25 30  
Lys Gly Arg Arg Arg Arg Gly Ala Ile Ser Ala Glu Val Tyr Thr Glu  
35 40 45  
Glu Asp Ala Ala Ser Tyr Val Arg Lys  
50 55

<210> 36  
<211> 180  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 36  
caggaggagg caaacagat tcagaatctg cagaaagcag gcactcgtac agactcaagg 60  
gaggatgaga tttctcctcc tccacccaac ccagtggta aaggtaggag gcgacgaggt 120  
gctatcagcg ctgaggtcta cacggaggaa gatgcggcat cctatgtag aaagctagtt 180

<210> 37  
<211> 100  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 37  
aggttatacc aaaagattac aagacaatgg ccgctttagc caaagccatt gaaaagaatg 60  
tgctgttttc acatcttgat gataatgaga gaaggtagga 100

<210> 38  
<211> 31  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 38  
Val Ile Pro Lys Asp Tyr Lys Thr Met Ala Ala Leu Ala Lys Ala Ile  
1 5 10 15

218138.sequence

Glu Lys Asn Val Leu Phe Ser His Leu Asp Asp Asn Glu Arg Ser  
                   20                  25                  30

<210> 39  
 <211> 70  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 39  
 cagtgatatt ttgatgccca tgttttcggt ctcctttatc gcaggagaga ctgtgattca 60  
 gcaaggtaag 70

<210> 40  
 <211> 21  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 40  
 Asp Ile Phe Asp Ala Met Phe Ser Val Ser Phe Ile Ala Gly Glu Thr  
 1                  5                  10                  15  
 val ile Gln Gln Gly  
                   20

<210> 41  
 <211> 68  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 41  
 cagtgatatt ttgatgccca tgttttcggt ctcctttatc gcaggagaga ctgattcagc 60  
 aaggtaag 68

<210> 42  
 <211> 60  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 42  
 ctcttttagg tgatgaaggg gataacttct atgtgattga tcaaggagag acggatgtaa 60

<210> 43  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

## 218138.sequence

<400> 43  
 Asp Glu Gly Asp Asn Phe Tyr Val Ile Asp Gln Gly Glu Thr Asp  
 1 5 10 15

<210> 44  
 <211> 56  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 44  
 ctcttttagg tgatgaagg gataacttct atgtgatcaa ggagagacgg atgtaa 56

<210> 45  
 <211> 183  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 45  
 ttgatgtcac ttgcacttta ggtctatggt aacaatgaat gggcaaccag tgttggggaa 60  
 ggaggagct ttggagaact tgctttgatt tatggaacac cgagagcagc cactgtcaaa 120  
 gcaaagacaa atgtgaaatt gtggggcatc gaccgagaca gctatagaag aatcctcatg 180  
 gta 183

<210> 46  
 <211> 53  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 46  
 Val Tyr Val Asn Asn Glu Trp Ala Thr Ser Val Gly Glu Gly Gly Ser  
 1 5 10 15  
 Phe Gly Glu Leu Ala Leu Ile Tyr Gly Thr Pro Arg Ala Ala Thr Val  
 20 25 30  
 Lys Ala Lys Thr Asn Val Lys Leu Trp Gly Ile Asp Arg Asp Ser Tyr  
 35 40 45

Arg Arg Ile Leu Met  
 50

<210> 47  
 <211> 175  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 47  
 ttgatgtcac ttggtctatg ttaacaatga atgggcaacc agtggtgggg aaggagggag 60  
 Page 10

# 218138.sequence

ctttggagaa cttgctttga tttatggaac accgagagca gccactgtca aagcaaagac 120  
 aaatgtgaaa ttgtggggca tcgaccgaga cagctataga agaatcctca tggta 175

<210> 48  
 <211> 184  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 48  
 ttgatgtcac ttgcacttta ggtctatggt aaccactgaa tgggcaacca gtgttgggga 60  
 aggagggagc tttggagaac ttgctttgat ttatggaaca ccgagagcag ccactgtcaa 120  
 agcaaagaca aatgtgaaat tgtggggcat cgaccgagac agctatagaa gaatcctcat 180  
 ggta 184

<210> 49  
 <211> 183  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 49  
 ttgatgtcac ttgcacttta ggtctatggt aacaatgaat gggcaaccag tgttggggaa 60  
 ggagggagct ttggagaact tgctttgatt tatggaacac cgagagcagc cactgtcaaa 120  
 gcaaagacaa atgtgaaatt gtggggcatc gactgagaca gctatagaag aatcctcatg 180  
 gta 183

<210> 50  
 <211> 184  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 50  
 ttgatgtcac ttgcacttta ggtctatggt aacaatgaat gggcaaccag tgttggggaa 60  
 ggagggagct ttggagaact tgctttgatt tatggaacac cgagagcagc cactgtcaaa 120  
 gcaaagacaa atgtgaaatt gtggggcatc gaccgagaca gctattagaa gaatcctcat 180  
 ggta 184

<210> 51  
 <211> 80  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

# 218138.sequence

<400> 51  
tatttttagg gaagcacact gagaaagcgg aagatgtatg aggaattcct tagtaaagtc 60  
tctatttttag gtgagttgta 80

<210> 52  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 52  
Gly Ser Thr Leu Arg Lys Arg Lys Met Tyr Glu Glu Phe Leu Ser Lys  
1 5 10 15  
Val Ser Ile Leu Glu  
20

<210> 53  
<211> 82  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 53  
tatttttagg gaaaagcaca ctgagaaagc ggaagatgta tgaggaattc cttagtaaag 60  
tctctatttt aggtgagttg ta 82

<210> 54  
<211> 140  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 54  
gtctttcaga gtctctggac aagtgggaac gtcttacggt agctgatgca ttggaaccag 60  
tgcagtttga agatgggcag aagattgtgg tgcagggaga accaggggat gagttcttca 120  
ttattttaga ggtaaagaac 140

<210> 55  
<211> 40  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 55  
Ser Leu Asp Lys Trp Glu Arg Leu Thr Val Ala Asp Ala Leu Glu Pro  
1 5 10 15  
Val Gln Phe Glu Asp Gly Gln Lys Ile Val Val Gln Gly Glu Pro Gly  
20 25 30

# 218138.sequence

Asp Glu Phe Phe Ile Ile Leu Glu  
35 40

<210> 56  
<211> 140  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 56  
gtctttcaga gtctctggac aagtgcatac gtcttacggt agctgatgca ttggaaccag 60  
tgcagtttga agatgggcag aagattgtgg tgcagggaga accaggggat gagttcttca 120  
ttattttaga ggtgaagaac 140

<210> 57  
<211> 140  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 57  
gtctttcaga gtctctggac aagtgggaac gtcttacggt agctgatgca ttggaaccag 60  
tgcagtttga agatgggcag aagattgtgg tgcagggaga accaggggat gagttcttca 120  
ttattttaga ggtaaagaac 140

<210> 58  
<211> 100  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 58  
ttattatagg ggtcagctgc tgtgctacaa cgtcggtcag aaaatgaaga gtttgttgaa 60  
gtgggaagat tggggccttc tgattatattt ggtatgtatg 100

<210> 59  
<211> 27  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 59  
Gly Ser Ala Ala Val Leu Gln Arg Arg Ser Glu Asn Glu Glu Phe Val  
1 5 10 15

Glu Val Gly Arg Leu Gly Pro Ser Asp Tyr Phe  
20 25

<210> 60

## 218138.sequence

<211> 100  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 60  
 ttattatagg ggtcagctgc tgtgctacaa cgtcggtgag aaaatgaaga gtttgttgaa 60  
 gtgggaagat tggggccttc tgattatittt ggtatgtatg 100

<210> 61  
 <211> 377  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 61  
 ctccaggtga aattgcacta ctgatgaatc gtcctcgtgc tgccacagtt gttgctcgtg 60  
 gccccttgaa gtgcgttaag ctggaccgac ctagatttga acgtgttctt ggcccatgct 120  
 cagacatcct caaacgaaac atccagcagt acaacagttt tgtgtcactg tctgtctgaa 180  
 atctgcctcc tgtgcctccc ttttctctc tccccaatcc atgcttcact catgcaaact 240  
 gctttatittt ccctacttgc agcgccaagt ggccactggc atcgagctt cctgtctgtt 300  
 tatatattga aagttgcttt tattgcacca ttttcaattt ggagcattaa ctaaagtctc 360  
 atacacagtt aaataaa 377

<210> 62  
 <211> 57  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 62  
 Gly Glu Ile Ala Leu Leu Met Asn Arg Pro Arg Ala Ala Thr Val Val  
 1 5 10 15  
 Ala Arg Gly Pro Leu Lys Cys Val Lys Leu Asp Arg Pro Arg Phe Glu  
 20 25 30  
 Arg Val Leu Gly Pro Cys Ser Asp Ile Leu Lys Arg Asn Ile Gln Gln  
 35 40 45  
 Tyr Asn Ser Phe Val Ser Leu Ser Val  
 50 55

<210> 63  
 <211> 49  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

# 218138.sequence

```

<400> 63
ggggacaagt ttgtacaaa aagcaggctg tccccagaga accatggag      49

<210> 64
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 64
ggggaccact ttgtacaaga aagctggggtc agtctctcct gcgataaag      49

<210> 65
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 65
ggggaccact ttgtacaaga aagctgggta cttgtccaga gactctaaa      49

<210> 66
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 66
ggggaccact ttgtacaaga aagctggggtc agacagtgac acaaaaactg      49

```